



2019–2020 NTSB

# MOST WANTED LIST OF TRANSPORTATION SAFETY IMPROVEMENTS



## Eliminate Distractions

### What is the problem?

Distraction is a growing and life-threatening problem in all modes of transportation. The increasing prevalence of personal electronic devices (PEDs), such as cell phones and tablets, in aviation operations has only expanded the potential ways pilots and other aviation safety-critical personnel can become distracted. We know that a loss of situational awareness in the air or on the ground can have potentially catastrophic results.

Many aviation operations and activities involve communicating and coordinating with others—including crewmembers, air traffic controllers, and dispatchers. But when pilots or other aviation safety-critical personnel introduce nonessential distractions, such as PEDs or personal conversations not related to work, into the cockpit or onto the tarmac, the risk to public safety increases exponentially.

Pilots involved in general aviation (GA) operations (Part 91) are more susceptible to distraction-related accidents because there are no federal regulations, such as the “sterile cockpit” rules seen in commercial airline operations, for this particular aviation segment. Additionally, personal-use, recreational aircraft are often unaffiliated with companies; therefore, they are not subject to corporate safety policies, which could address PED use.

The presence of cell phones and other electronic devices in the cockpit has led to midair collisions in the GA environment. Technology, no matter its purpose, has introduced challenges to the see-and-avoid concept. Aviation applications on PEDs, although useful, can lead to more head-down time, limiting a pilot’s ability to see other aircraft.

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Fatalities resulting from GA and Part 135 crashes investigated by the NTSB since 2008 in which distraction due to nonoperational activities was a factor



**On December 10, 2015, a Piper PA46-500TP airplane impacted power lines and terrain near Council Bluffs, Iowa. The pilot was fatally injured. We determined the probable cause of the accident was the pilot’s failure to maintain clearance from power lines while returning to the airport after becoming distracted by a noncritical flight instrumentation anomaly indication.**

Contributing to the problem is the widespread belief by many that they can multitask and still operate an aircraft safely. But multitasking is a myth; humans can only focus cognitive attention on one task at a time.

### Related reports:

**Aviation Accident Final Report:** PIPER PA46 500TP Controlled Flight Into Terrain; Council Bluffs, Iowa; December 10, 2015; Accident ID CEN16FA062

**Aviation Accident Final Report:** COLLINS RV6A Loss of Control in Flight; Pekin, Illinois; 08/18/2016; Accident ID CEN16LA329

**AAR-13/02:** Crash Following Loss of Engine Power Due to Fuel Exhaustion, Air Methods Corporation Eurocopter AS350 B2, N352LN; Mosby, Missouri; August 26, 2011; Accident ID CEN11FA599

**For detailed investigation reports, visit [www.nts.gov](http://www.nts.gov)**

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## What can be done?

The consequences of visual, manual, cognitive, and auditory distractions can be seen in all modes of transportation. In commercial operations, all safety-critical personnel must commit to minimizing distractions, and companies have a corporate responsibility to develop policies to reduce distraction. Distraction must be managed—even engineered out—to ensure safe operations. A cultural change is needed for all aviation personnel to understand that their safety and the safety of others depends on disconnecting from deadly distractions.

### To address the problem of distraction in aviation, the following actions should be taken:

#### Operators/Industry

- › In support of the “sterile cockpit” regulations, develop procedures and strategies for pilots to help them identify and avoid non-work-related distractions. These strategies should ensure pilots only direct their attention to operationally relevant information to maintain flight safety.
- › Establish procedures for safety-critical personnel other than pilots—including all crew, mechanics, ramp workers, and others—related to PED use. In 2014, the Federal Aviation Administration (FAA) issued its final rule, Prohibition on Personal Use of Electronic Devices on the Flight Deck (Part 121), and it also published guidance encouraging the aviation industry to expand procedure manuals and training programs to include other personnel in the prohibition of PEDs in the operational environment.

#### Regulators

- › Ban the nonoperational PED use in Part 135 and Part 91 aircraft. The findings of the fatal crash of an Air Methods EMS helicopter flight in 2011 points to the need to address distraction in all aircraft types. In that accident, texting while flying was at least in part responsible for the crash. Four people—the pilot, a nurse, a paramedic, and the patient—died in the accident.



On August 26, 2011, a Eurocopter AS350 B2 helicopter crashed near the Midwest National Air Center (GPH), Mosby, Missouri. The pilot, flight nurse, flight paramedic, and patient were killed. Contributing to the accident was the pilot's distracted attention due to personal texting during safety-critical ground and flight operations.

#### Pilots

- › Commercial pilots should comply with FAA rules and ensure a “sterile cockpit” environment. In 1981, the FAA introduced the “sterile cockpit rule” (Title 14 *Code of Federal Regulations* Part 121.542), which prohibits distracting personal activities during critical phases of flight, including all ground operations involving taxi, take-off, and landing, and flight operations below 10,000 feet (except cruise). In 2014, the FAA codified all policies and procedures and issued a rule prohibiting pilots from engaging in nonessential conversations or using mobile phones, tablets, or laptops for personal use while on duty. Nonessential conversation was an early form of internally generated (self) distraction in the cockpit, and accident history shows it can severely interfere with pilots' ability to complete tasks and maintain situational awareness.
- › All other pilots must voluntarily reduce and manage distractions to maximize attention. Keep phones off and out of the environment and focus on the task at hand until it is safely completed. Avoid nonessential conversations.

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Critical changes needed  
to reduce transportation  
accidents, injuries, and  
fatalities

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The NTSB **MOST WANTED LIST** highlights safety issues identified from the NTSB's accident investigations to increase awareness about the issues and promote recommended safety solutions.

For more information visit [www.ntsb.gov/mostwanted](http://www.ntsb.gov/mostwanted) or contact [SafetyAdvocacy@ntsb.gov](mailto:SafetyAdvocacy@ntsb.gov)

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation—railroad, highway, marine, and pipeline. The NTSB determines the probable cause of the accidents and issues safety recommendations aimed at preventing future accidents. In addition, the NTSB carries out special studies concerning transportation safety and coordinates the resources of the federal government and other organizations to provide assistance to victims and their family members impacted by major transportation disasters.

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